

Title (en)  
TEACH MODE COLLISION AVOIDANCE SYSTEM AND METHOD FOR INDUSTRIAL ROBOTIC MANIPULATORS

Title (de)  
KOLLISIONSVERMEIDUNGSSYSTEM IM LEHRMODUS UND VERFAHREN FÜR INDUSTRIELLE ROBOTERMANIPULATOREN

Title (fr)  
SYSTÈME ET PROCÉDÉ D'ÉVITEMENT DE COLLISION EN MODE APPRENTISSAGE POUR MANIPULATEURS ROBOTISÉS INDUSTRIELS

Publication  
**EP 3609655 A1 20200219 (EN)**

Application  
**EP 18706020 A 20180131**

Priority

- US 201762485159 P 20170413
- US 201715789032 A 20171020
- US 2018016141 W 20180131

Abstract (en)  
[origin: US2018297204A1] A robot system includes a robot, a teach pendant having an operator interface, and a robot controller with a computer and associated hardware and software containing a virtual representation of the robot and the environment. The system employs a method for avoiding collisions including moving a manipulator arm along an actual path in an environment containing objects constituting collision geometry. Operator input is entered into the teach pendant, whereby the operator is able to directly control motion of the robot along the actual path. A recent history of the motion of the robot is recorded, and a predicted path of the robot is developed based on the input entered into the teach pendant and the recent history of the motion of the robot. Real-time collision checking between the predicted path and the collision geometry is performed while the operator manually controls the robot using the teach pendant.

IPC 8 full level  
**B25J 9/16** (2006.01); **G05B 19/409** (2006.01); **G05B 19/427** (2006.01)

CPC (source: EP US)  
**B25J 9/163** (2013.01 - US); **B25J 9/1671** (2013.01 - EP US); **B25J 9/1676** (2013.01 - EP US); **G05B 19/409** (2013.01 - EP US); **G05B 19/427** (2013.01 - EP US); **G05B 2219/35471** (2013.01 - EP US); **G05B 2219/39082** (2013.01 - EP US); **G05B 2219/39433** (2013.01 - EP US); **G05B 2219/39434** (2013.01 - EP US); **G05B 2219/39443** (2013.01 - EP US); **G05B 2219/39445** (2013.01 - EP US); **G05B 2219/40311** (2013.01 - EP US); **G05B 2219/40317** (2013.01 - EP US); **G05B 2219/49158** (2013.01 - EP US)

Citation (search report)  
See references of WO 2018190936A1

Designated contracting state (EPC)  
AL AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HR HU IE IS IT LI LT LU LV MC MK MT NL NO PL PT RO RS SE SI SK SM TR

Designated extension state (EPC)  
BA ME

DOCDB simple family (publication)  
**US 10766140 B2 20200908**; **US 2018297204 A1 20181018**; CA 3056861 A1 20181018; EP 3609655 A1 20200219; JP 2020516475 A 20200611; JP 7113847 B2 20220805; MX 2019010255 A 20191021; WO 2018190936 A1 20181018

DOCDB simple family (application)  
**US 201715789032 A 20171020**; CA 3056861 A 20180131; EP 18706020 A 20180131; JP 2019555922 A 20180131; MX 2019010255 A 20180131; US 2018016141 W 20180131